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Zytel® HTNLTFR52G30NH BL662

HIGH PERFORMANCE POLYAMIDE RESIN

Zytel® HTN high performance polyamide resins feature high retention of properties upon exposure to elevated temperature, to high moisture, and to harsh chemical environments. Polymer families and grades of Zytel® HTN are tailored to optimize performance as well as processability.

Typical applications with Zytel® HTN include demanding applications in the automotive, electrical and electronics, domestic appliances, and construction industries.

Zytel® HTNLTFR52G30NH BL662 is a 30% glass reinforced, flame retardant high performance polyamide resin developed for laser welding applications. It is also a PPA resin and it uses a non-halogenated flame retardant.

Product information

Resin Identification	PA6T/66-GF30FR(40)	ISO 1043
Part Marking Code	>PA6T/66-GF30FR(40)<	ISO 11469
Part Marking Code	>PPA-GF30FR<	SAE J1344
ISO designation	ISO 16396-PA6T/66,GF30 FR(40),M1CF1G,S10-110	

Rheological properties

	dry/cond.		
Moulding shrinkage, parallel	0.3 / -	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.8 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	10800 / 10400	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	148 / 125	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.2 / 2.2	%	ISO 527-1/-2
Flexural modulus	10500 / 10000	MPa	ISO 178
Flexural strength	220 / 190	MPa	ISO 178
Charpy impact strength, 23°C	46 / 40	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	40 / 40	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	6 / 6	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	6 / 5	kJ/m²	ISO 179/1eA
Poisson's ratio	0.34 / 0.34		

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	310 / *	°C	ISO 11357-1/-3
Melting temperature, first heat	310 / *	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	90 / 45	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	283 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel, -40-23°C	21 / *	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	25 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, parallel, 55-160°C	27 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	57 / *	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	68 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, 55-160°C	118 / *	E-6/K	ISO 11359-1/-2
RTI, electrical, 0.4mm	140	°C	UL 746B
RTI, electrical, 1.5mm	140	°C	UL 746B
RTI, electrical, 3.0mm	140	°C	UL 746B

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RTI, impact, 1.5mm	115	°C	UL 746B
RTI, impact, 3.0mm	120	°C	UL 746B
RTI, strength, 1.5mm	125 / *	°C	UL 746B
RTI, strength, 3.0mm	130	°C	UL 746B

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
UL recognition	yes / *		UL 94
Burning Behav. at thickness h	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.4 / *	mm	IEC 60695-11-10
UL recognition	yes / *		UL 94

Electrical properties

	dry/cond.		
Comparative tracking index	600 / -		IEC 60112
Electric Strength, Short Time, 2mm	27 / -	kV/mm	IEC 60243-1

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.6 / *	%	Sim. to ISO 62
Water absorption, 2mm	3.9 / *	%	Sim. to ISO 62
Density	1450 / -	kg/m³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	100	°C
Drying Time, Dehumidified Dryer	6 - 8	h
Processing Moisture Content	≤0.1	%
Min. melt temperature	320	°C
Max. melt temperature	325	°C
Min. mould temperature	90	°C
Max. mould temperature	130	°C

Characteristics

Processing	Injection Moulding
Additives	Flame retardant, Non-halogenated/Red phosphorous free flame retardant
Special characteristics	Flame retardant

Additional information

Injection molding	For molding machine components, use corrosion resistant and wear resistant steel. For details please contact our representative. Limit the residence time of the resin in the machine. Use proper protective equipment and adequate ventilation.

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